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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,001	03/01/2004	Jeffrey S. Lille	HSJ9-2003-0114US1	1299

32112 7590 08/07/2006

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1901 S. BASCOM AVENUE, SUITE 660
CAMPBELL, CA 95008

EXAMINER

WATKO, JULIE ANNE

ART UNIT PAPER NUMBER

2627

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/791,001	Applicant(s) LILLE, JEFFREY S.	
	Examiner Julie Anne Watko	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 13-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11, 12 and 21-23 is/are rejected.
- 7) ☒ Claim(s) 7-10 and 24-27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on July 24, 2006. These drawings are acceptable.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 3 recites the limitation "said heat sink is disposed at least in part directly upon said second magnetic pole." No embodiment disclosed in the specification meets this limitation. See, e.g., layers 94 and 110 in Fig. 5, which are located between heat sink 120 and second magnetic pole 84. See also Figs. 7-8, which show layers between a heat sink and a second magnetic pole.

4. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not enable a person of ordinary skill in the art to create a heat sink layer having a same thickness as the lead layer, in combination with the heat sink layer being directly upon the second magnetic pole, and further in combination with the heat sink layer being coplanar with the electrical lead.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 1-2, 4-6, 11-12 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al (US Pat. No. 6731461 B2).

As recited in independent claims 1 and 21, Yamada et al show a magnetic head comprising: a write head portion (upper portion in Fig. 5) including a first magnetic pole (24, for example) and a second magnetic pole (20, for example); an induction coil 22 being disposed at least in part between said first and second magnetic poles; an electrical lead of said induction coil being (inherently) disposed in a layer of the magnetic head and having an electrical lead thickness; a heat sink 30.

As recited in claims 1 and 21, Yamada et al are silent regarding the heat sink being disposed within said layer and being coplanar within the magnetic head with said electrical lead of said coil; however, this position was within the level of ordinary skill in the art.

There is no invention in relocating known parts, when the functioning of the apparatus is not changed by the relocation. *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to arrive at the claimed relative locations of parts in the course of routine experimentation and optimization and as a matter of design choice. The rationale is as follows: one of ordinary skill in the art would have been motivated to achieve proximity between heat sink and coil so as to radiate heat efficiently (see col. 5, lines 14-39) and to save a forming step

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by forming the heat sink layer in a same step as another layer is formed as taught by Yamada et al (see col. 5, lines 17-18; see also col. 8, lines 18-19).

As recited in claims 1 and 21, Yamada et al are silent regarding the claimed relative thickness of the heat sink layer and the electrical lead thickness.

There is no invention in changing the relative dimensions of a known apparatus, absent unexpected results due to the claimed relative dimensions. Gardner v. TEC systems, Inc., 220 USPQ 777 (Fed. Cir. 1984).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to arrive at the claimed dimensions through the process of routine experimentation and optimization in the absence of criticality. The rationale is as follows: one of ordinary skill in the art would have been motivated to arrive at the claimed dimensions in order to achieve a desired heat conductivity, mass and cost of the head as is notoriously well known in the art.

As recited in independent claim 21, in addition to the above teachings, Yamada et al are silent regarding a hard disk drive comprising: at least one hard disk being adapted for rotary motion upon a disk drive; at least one slider device having a slider body portion being adapted to fly over said hard disk, and a magnetic head being formed on said slider body for writing data to said hard disk.

Official notice is taken of the fact that it was known in the art at the time the invention was made to use a magnetic head in a hard disk drive environment having the recited limitations.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the head of Yamada et al in the known hard disk drive environment. The

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rationale is as follows: one of ordinary skill in the art would have been motivated to dynamically record, store and reproduce data as is notoriously well known in the art.

As recited in claim 2, Yamada et al show that said heat sink is comprised of copper.

As recited in claim 2, Yamada et al are silent regarding whether said electrical lead is comprised of copper.

Official notice is taken of the fact that a copper electrical lead was known in the art at the time the invention was made.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the electrical lead out of copper as is notoriously well known in the art. The rationale is as follows: one of ordinary skill in the art would have been motivated to make the electrical lead out of copper in order to achieve high electrical and heat conductivity as is notoriously well known in the art.

As recited in claims 4 and 23, Yamada et al show an insulation layer (including the insulation between pole 20 and coil 22, for example) that is disposed in part above said second magnetic pole.

As recited in claims 4 and 23, Yamada et al are silent regarding the claimed locations of said electrical lead and said heat sink.

There is no invention in relocating known parts, when the functioning of the apparatus is not changed by the relocation. *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to arrive at the claimed relative locations of parts in the course of routine experimentation and optimization and as a matter of design choice. The rationale is as follows:

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one of ordinary skill in the art would have been motivated to achieve proximity between heat sink and coil so as to radiate heat efficiently (see col. 5, lines 14-39) and to save a forming step by forming the heat sink layer in a same step as another layer is formed as taught by Yamada et al (see col. 5, lines 17-18; see also col. 8, lines 18-19), and to save a forming step by forming the lead in a same step as the coil as is notoriously well known in the art.

As recited in claim 5, Yamada et al show that said heat sink 30 includes a first substantial portion (see right part of 30 in Fig. 5) that is disposed above said second magnetic pole 20, and another substantial portion (see left part of 30 in Fig. 5) that is disposed away from said second magnetic pole 20.

As recited in claim 6, Yamada et al are silent regarding whether said heat sink is disposed away from an air bearing surface of the magnetic head.

There is no invention in relocating known parts, when the functioning of the apparatus is not changed by the relocation. In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to arrive at the claimed relative locations of parts in the course of routine experimentation and optimization and as a matter of design choice. The rationale is as follows: one of ordinary skill in the art would have been motivated to avoid destroying magnetically recorded bits of information by heating the medium as is known in the art.

As recited in claim 11, Yamada et al are silent regarding whether said magnetic head is a longitudinal head.

Official notice is taken of the fact that longitudinal heads and perpendicular heads were known in the art at the time the invention was made.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the head of Yamada et al as a longitudinal head. The rationale is as follows: one of ordinary skill in the art would have been motivated to implement the head as a longitudinal head so as to enable recording on inexpensive magnetic media as is notoriously well known in the art.

As recited in claim 12, Yamada et al are silent regarding whether said magnetic head is a perpendicular magnetic head.

Official notice is taken of the fact that longitudinal heads and perpendicular heads were known in the art at the time the invention was made.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the head of Yamada et al as a perpendicular magnetic head. The rationale is as follows: one of ordinary skill in the art would have been motivated to implement the head as a perpendicular magnetic head so as to enable recording on high density magnetic media as is notoriously well known in the art.

As recited in claim 22, Yamada et al show that said heat sink 30 is disposed at least in part upon (but not directly upon) said second magnetic pole 20 (see Fig. 6).

Allowable Subject Matter

7. Claims 7-10 and 24-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed July 24, 2006, have been fully considered but they are not persuasive.

Regarding independent claims 1 and 21: Applicant has asserted that the location of the heat sink changes the functioning of the head. The Examiner has considered this argument thoroughly and agrees that the relative locations of the heat sink and the coil affect the efficiency of the head as taught by Yamada et al (see col. 5, lines 51-55, "heat radiating layer 30 is very close to the coil 22. With this structure, the heat generated in the coil 22 can be efficiently conducted to the heat radiating layer 30 and radiated therefrom").

The Examiner notes that Applicant has not claimed any relative positions of the heat sink and the coil. Applicant has instead claimed relative positions of leads and a heat sink. It is possible to locate a heat sink in the claimed location while still keeping the heat sink away from the coil.

Applicant's discovery of an advantage based upon non-claimed relative positions would not be germane to patentability, even if the prior art had not already taught that exact advantage for the non-claimed relative positions (see Yamada et al, col. 5, lines 51-55).

Regarding claims 3 and 22: Applicant has added the limitation "directly" to claim 3. Applicant has argued that the limitation "said heat sink is disposed at least in part directly upon said second magnetic pole" overcomes the rejection in view of Yamada et al. The Examiner has considered this argument thoroughly and agrees that the limitation "said heat sink is disposed at least in part directly upon said second magnetic pole" overcomes the rejection of claim 3 in view of Yamada et al; however, Applicant has satisfied neither the written description requirement nor

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the enablement requirement for amended claim 3, which includes all limitations of claim 1.

Furthermore, Applicant has not amended claim 22.

Other claims have been argued based upon their dependency from the independent claims. Because Applicant's arguments are non-persuasive with respect to the independent claims, the rejections of other dependent claims are maintained.

Conclusion

9. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

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like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Anne Watko whose telephone number is (571) 272-7597.

The examiner can normally be reached on Monday through Thursday, noon to 10PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne D. Bost can be reached on (571) 272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Julie Anne Watko, J.D.
Primary Examiner
Art Unit 2627

August 4, 2006
JAW

A handwritten signature in black ink, appearing to read 'JAW', with a long horizontal flourish extending to the right.